

What is claimed is:

1. A charging/discharging management system for Lithium battery packs comprising:

means for determining by a first comparison circuit whether the voltage of a rechargeable battery reaches or falls below a designated lower level during discharging; when this occurs said comparison circuit sends a signal to a control circuit to cut off the load accordingly;

means for determining by a second comparison circuit whether the voltage of a rechargeable battery reaches a designated upper level during charging; when this occurs the said second comparison circuit sends a signal to a feedback circuit to send leftover charging energy back to the entire battery pack;

a high frequency energy conversion circuit for converting leftover charging energy into suitable form back to the entire battery pack; and

a trigger signal generator generates high frequency rectangular waves, which are sent to said high frequency energy conversion circuit for enabling energy conversion process.
2. A charging/discharging management system for Lithium battery packs comprising of claim 1, wherein said first comparison circuit is an OP AMP.
3. A charging/discharging management system for Lithium battery packs comprising of claim 1, wherein said second comparison circuit is an OP AMP.
4. A charging/discharging management system for Lithium battery packs comprising of claim 1,

wherein said high frequency energy conversion circuit further comprising a first and a second FETs and a high frequency transformer; where the signal generated by said second comparison circuit is amplified by said first FET and then fed through said second FET aided by rectangular signals from said trigger signal generator, in which the charging electrical energy is converted into high frequency electrical energy then is transformed by said transformer and rectified, filtered, and eventually sent back to the entire battery pack.

5. A charging/discharging management system for Lithium battery packs comprising of claim 1, wherein when all battery units meet the charging requirements, all upper voltage threshold comparison circuits no longer sending output at high electrical levels, which indicates the charging is completed.